

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP05-0116-00	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/JP2005/005776	International filing date (day/month/year) 28 March 2005 (28.03.2005)	Priority date (day/month/year) 26 March 2004 (26.03.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant TDK CORPORATION			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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<input type="checkbox"/> Box No. VIII	Certain observations on the international application															

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 19 October 2006 (19.10.2006)</p>
	<p>Authorized officer</p> <p><b>Masashi Honda</b></p> <p>e-mail: pt08@wipo.int</p>

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**FP05-0116-00**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2005/005776**

International filing date (day/month/year)

**28.03.2005**

Priority date (day/month/year)

**26.03.2004**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**TDK CORPORATION**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/005776

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/005776

**Box No. V** Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

**1. Statement**

Novelty (N)	Claims	<u>3, 7, 13-17, 19, 20, 22, 23, 26, 27, 29, 30</u>	YES
	Claims	<u>1, 2, 4-6, 8-12, 18, 21, 24, 25, 28</u>	NO
Inventive step (IS)	Claims	_____	YES
	Claims	<u>1-30</u>	NO
Industrial applicability (IA)	Claims	<u>1-30</u>	YES
	Claims	_____	NO

**2. Citations and explanations:**

Document 1: JP 2004-002911 A (Yaskawa Electric Corporation), 08 January 2004, claims, paragraphs 0004 and 0007, Figs. 1-3 (Family: none)

Document 2: JP 03-115522 A (Seiko Denshi Kogyo K.K.), 16 May 1991, claims, page 1, lower right column, line 16 to page 2, upper right column, line 1; and page 2, lower left column, table 1 (Family: none)

Document 3: JP 2002-520870 A (Bakumushumerutye GmbH), 09 July 2002, claims & US 6562289 B1 & EP 1115897 A

Document 4: JP 2003-007556 A (Nippon Carbaraising K.K.)  
10 January 2003, claims, paragraph 0020 (Family: none)

Document 5: JP 63-232304 A (Tohoku Kinzoku Kogyo K.K.), 11 March 1988, claims (Family: none)

Document 6: JP 2001-076914 A (Sumitomo Special Metals Co., Ltd.), 23 March 2001, claims & US 6326087 B1 & EP 1011112 A2

Document 7: JP 06-053063 A (Seiko Epson Corporation), 25 February 1994, claims, paragraph 0004 (Family: none)

Document 8: JP 11-135313 A (Matsushita Electric Industrial Co., Ltd.), 21 May 1999, claims, paragraph 0013 (Family: none)

Document 9: JP 05-017890 A (K.K. Raimuzu), 26 January 1993, claims (Family: none)

- Regarding claims 1, 2, 4-12, 18, 21, 24, 25 and 28

Document 1 cited in the ISR describes a rear earth permanent magnet wherein a surface of a permanent magnet containing a rear earth element as a main component is melt by laser beam, electronic beam or the like, the same is quenched to form an amorphous layer, and on the amorphous layer surface, an Ni plated layer is provided, and a producing method therefor; therefore, the inventions of claims 1, 2, 4-6, 8, 10-12, 18, 24, 25 and 28 do not appear to be novel.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

Also, document 2 describes applying high-energy electronic beam to a rear earth magnet surface, converting the surface layer into amorphous so as to make it serve as a protection layer, setting the thickness of the amorphous layer at 15nm to 141nm, and having importance in adhesion of the protection layer to a magnet; therefore, the inventions of claims 1, 2, 5, 6, 8, 9, 18, 21 and 28 do not appear to be novel.

Further, in view of the adhesion of a magnet to a protection layer, specifying the degree of roughening the magnet surface is a matter of design variation that could be conceived of as appropriate by a party skilled in the art; therefore, the invention of claim 7 does not appear to involve an inventive step.

- With respect to claims 3, 13-17, 22, 23, 26, 27, 29 and 30

Document 3 describes passivating a rear earth magnet surface, and document 4 describes using a zinc phosphate solution to chemically convert the rear earth magnet surface and form a passivated film; therefore, the inventions of claims 3, 13, 22 and 23 do not appear to involve an inventive step.

Forming a metal coating film on a rear earth magnet surface is described in document 5, forming an oxide coating film is described in document 6, forming a metal coating film, resin coating film, and nitride film is described in document 7, and forming an oxide film and oxide nitride film is described in document 8.

Also, forming an amorphous layer by ion beam is described in document 9.

Therefore, the invention of claims 3, 13-17, 22, 23, 26, 27, 29 and 30 do not appear to involve an inventive step.